


# Will Epperson

I'm a Ph.D. student in the HCII at CMU advised by Dominik Moritz and Adam Perer.

My research interests lie in **developing ways to make complex systems easier to use and understand for experts and non-experts**. I am interested in how we can build tools to help users interact with their data through understandable Machine Learning, interactive visualizations, and recommended analysis. I'm also interested in how these techniques can be applied to the medical domain to improve both doctor and patient experiences.


 willepperson.com

 willepp@cmu.edu

 CV PDF

 @w\_epperson

 @willeppy

 Google Scholar

 LinkedIn

## Education

August 2020 - Present

### Ph.D. in Human Computer Interaction

Carnegie Mellon University

*Advisors:* Dominik Moritz, Adam Perer

*Sample Coursework:* Computational Medicine

August 2016 — May 2020

### B.S. in Computer Science

Georgia Institute of Technology

GPA: 4.0, Summa Cum Laude, threads in Intelligence and Modeling/Simulation

*Sample Coursework:* Machine Learning, Deep Learning, Computer Vision, Computer Architecture, Algorithms, Computer Simulation, Information Visualization

## Publications

### FairVis: Visual Analytics for Discovering Intersectional Bias in Machine Learning

Angel Cabrera, Will Epperson, Fred Hohman, Minsuk Kahng, Jamie Morgenstern, Duen Horng (Polo) Chau

*IEEE Conference on Visual Analytics Science and Technology (VAST). Vancouver, Canada, 2019.*

 Project  Demo  PDF  Blog  Recording  Slides  Code  BibTeX

### RECAST: Interactive Auditing of Automatic Toxicity Detection Models

Austin P. Wright, Omar Shaikh, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng (Polo) Chau

*The eighth International Workshop of Chinese CHI. 2020.*

 Project  PDF  BibTeX

## Talks

### FairVis

May 2019

IEEE Visualization Conference

## Honors and Awards

2019

PURA: President's Undergraduate Research Award

\$1500 research grant to continue work on FairVis project

2016

### Stamps President's Scholarship

Full ride scholarship given to 40 incoming freshman at Georgia Tech

## Research Experience

January 2019 - May 2020

**Georgia Institute of Technology**, Atlanta, GA

*Undergraduate Researcher, Polo Club of Data Science*

Advisor: Duen Horng (Polo) Chau

Member of the Polo Club of Data Science working on novel data visualizations to find fairness issues in Machine Learning models

*Relevant Skills:* Python, Javascript

January 2018 - May 2019

**Georgia Institute of Technology**, Atlanta, GA

*Undergraduate Researcher, Automated Algorithm Design*

Advisor: Jason Zutty, Greg Rohling

Worked on EMAD algorithm design engine to implement sentiment analysis pipeline to analyze news articles to aid in predicting stock price movements using genetic algorithms. Led project to visualize the genetic algorithm evolution process.

*Relevant Skills:* Python, Javascript

## Industry Experience

Summer 2019

**Point72 Asset Management**, New York, NY

*Data Analytics Intern, Market Intelligence Group*

Mentor: Trevor Rempel

Worked as Data Scientist in alternative data space to clean, model, and understand large datasets

*Relevant Skills:* Python, Distributed Computing in Spark

Summer 2018

**Ultimate Software**, Weston, FL

*Software Development Intern, Innovation Strategies Team*

Mentor: Joseph Cutrono

Designed and developed Slack app to integrate with the UltiPro HR management tool. App published to Slack app store.

*Relevant Skills:* Typescript, REST API development

Summer 2015

**The Home Depot**, Atlanta, GA

*Software Development Intern*

Developed web app for tracking candidate progress throughout hiring process for internal HR use.

*Relevant Skills:* Java, HTML/CSS/Javascript

## Teaching

August 2017 - December 2018

**Undergraduate Teaching Assistant**

*Georgia Institute of Technology, Atlanta, GA*

Intro to Database Systems (CS 4400), Instructor: Monica Sweat

Designed projects, held office hours and graded for relational databases class.

## Leadership & Activities

January 2019 - May 2020

**Student Ambassador**

*Georgia Institute of Technology Alumni Association*

Serve as official representative of the Institute at events/tours for alumni, prospective students, and special guests.

January 2018 - May 2019

### **Executive Board Member -- Threads Co-chair**

#### ***Stamps Scholars National Convention 2019***

Executive board member of Stamps Scholars National Convention, a 3-day conference with over 700 student attendees. Responsible for 20-person committee that plans and coordinates the different content threads of the convention.

## Sample Projects

December 2018

### **ICLR'19 Reproducibility Challenge**

Implemented the architecture and reproduced results for an ICLR'19 submission using GANs to decorrelate sensitive data, titled Generative Adversarial Models for Learning Private and Fair Representations.

January 2018 - December 2018

### **Atlanta Crime Map**

Led a team as part of Data Science Club at GT to analyze and visualize crime data on and around GT's campus to provide insight into crime frequency and details for GTPD.

February 2018

### **Citadel Datathon**

Created supervised learning system to predict dangerous road areas to help make cities safer at Citadel and Correlation One's Datathon at Georgia Tech. Team placed top 3.

February 2017 - December 2017

### **RECONSO Research**

Developed interface between core state machine and battery systems on Avionics team of student-led cube satellite project. Learned C while working on project.

## Skills

**Programing Languages:** Python (Advanced), Javascript/Typescript (Intermediate), HTML (Intermediate), SQL (Intermediate), Java (Intermediate), C (Basic)

**Toolkits, Frameworks, Software:** Pytorch, Scikit-learn, Git, VegaLite, D3, Tableau, MacOS, Windows, Linux

**Natural Languages:** English (Native), Spanish (Advanced)